March Field Air Museum Project Kit

Congratulations! You're going to the March Field Air Museum! Use these project ideas to enrich your educational experience. Read through them before you go to make sure you understand the terms and concepts, and to help you determine if you want to expand upon any of them. You'll find fun facts and printable worksheets at the end of this packet.

a- elementary level activity b- middle school level activity c- high school level activity

Language Arts

March Field inspires the imagination. What would it have been like to work around or in one of these great planes? What would it have been like to have lived on a carrier or air base? Use your surroundings and your imagination to create a piece of fictional writing.

a. Draw a storybook or write a short story with illustrations inspired by the planes.
b. Write a short story inspired by your visit, including a main character and the main elements of a story (setting, plot, conflict, and resolution).
c. Choose between writing a fictional first-person narrative or a screenplay inspired by your visit.

Materials required: Notebook, pen/pencil
Submission: A copy of your writings/drawing, and any pictures/videos

Teaching or learning notes:

Applied Math

The engineering and design of the planes is intricate and specific. Everywhere you look there is visual math. Notice the accuracy of the engineering, and all the application of math all around you. Everyone who worked on the planes had to be proficient in math. Find applications for mathematical thinking and calculation all around you.

a. Go on a shape hunt. Draw and label the shapes you find. Also, draw a representation of at least two patterns you find.
b. Look closer at one plane. Detail the math it would take to create it. Try to identify at least one part of your plane which would require math or skill beyond your current understanding. What could you do to learn that skill?
c. Math is everywhere. Imagine you are one of the people working on the planes. Describe your project and what you would need to know and do to complete it. Choose at least one application of math that you see, estimate measurements, and use calculations to show how the worker designed and created that element.

Materials required: Notebook, pen/pencil, calculator or smartphone (optional)
Submission: Your calculations, estimations, and conclusions, and any pictures/videos

Teaching or learning notes:

Science

The science of flying is fascinating. What keeps a plane in the air? How does it turn or go up and down? What is Bernoulli's principle? Take a closer look at the planes to learn more about flying.

a. Learn the physics of flying. What is Bernoulli's principle? Draw a plane and diagram the flow of air and how that keeps the plane in the air.
b. Draw a diagram of what keeps a plane in the air. Write a short paragraph explaining the principle. Learn more about the names of plane movement. List and describe the following terms: pitch, roll, yaw, loop, climb, dive, and lift. Identify on your diagram which parts of the plane are responsible for these movements.
c. Look closer at the moving parts on the plane. Draw a diagram of what keeps a plane in the air. Also, identify the parts of the plane which generate thrust, lift, and directional movement. Include the following terms: wings, ailerons, flaps, rudder, elevator, vertical stabilizer, horizontal stabilizer, fuselage, and engines.

Materials required: Notebook, pen/pencil
Submission: A copy of your drawings, diagrams, or designs, and any pictures/videos

Teaching or learning notes:

Social Studies

Visit the World War I exhibit. How do the planes and March Field contribute to the story of this "war to end all wars"?

a. Write or draw about the beginnings of March Field.
b. Planes were a fairly new invention during World War I. Write a short essay about the importance of planes to the war effort.
c. Dive deeper into World War I history and the effect planes had. Write an essay detailing the timeline of World War I and how air warfare changed the way we fight. Include important people and dates.

Materials required: Notebook, pen/pencil, smartphone (optional)
Submission: A copy of your writings/drawings, and any pictures/videos

Teaching or learning notes:

Fun Facts

- March Field Air Museum is home to more than seventy vintage aircraft ranging from the First World War to the conflict in Afghanistan, a full size Fire Base with six helicopters, WW 2 Quonset huts and more than forty secure fenced acres with four hangars.

- Central Intelligence Agency pilot Al Rand's U-2 high-altitude flight suit is on special display. Rand wore the flight suit on Cold War intelligence gathering overflights of the Soviet Union and during the Cuban Missile Crisis when aerial reconnaissance photos brought the world to the brink of nuclear war.

- Written between October 1942 and January 1944, Staff Sergeant Roger's captivating letters form the basis of this engaging, entertaining and ultimately heartbreaking exhibit. From a naïve teenager to a veteran at the age of 21 the exhibit takes this young volunteer from enlistment through the challenges of radio school, air gunner training, bomber familiarization at March Field and ultimately, to combat in the Central Pacific. Nearly lost, his letters were saved through the intercession of the March Field Air Museum staff and have been developed into a comprehensive telling of the common man's experience of war.

- The SR-71 Blackbird's unique design evolved from the challenges of meeting the goal of operating beyond the range of interception in both speed and altitude. In 1976, more than ten years after its first flight the SR-71 set two world records for its class with a speed of 2,193.167 mph and an altitude of 85,068.997 feet.

- Designed to implement the United States Army Air Corps concept of Strategic Bombing the Boeing B-17 Flying Fortress was the undisputed centerpiece of the U.S. air campaign in Europe during the Second World War. The four-engine heavy bomber carried an impressive 5,000 to 8,000 pound bomb load and an extensive defensive armament of up to 13 .50 caliber heavy machine guns.

- Expected to serve in the United States Air force until 2025, the F-15 Eagle, with its record of 100 aerial victories without a single loss in conflicts from the Persian Gulf to Kosovo, is one of the most successful fighters in history of aviation.

March Field Air Museum

1. Draw a picture of your favorite part of the museum.

2. Describe your favorite part and why you love it.

3. What is lift and why it is important to planes?

4. Draw or describe one plane you saw.

5. Describe or draw one example of engineering you saw.

6. How are planes now different from planes 100 years ago?

BONUS:

This history of manned flight has shaped our world. Outline 5 major events of the last 100 years which were significantly impacted by planes. Include dates and any important people.